Maximum mind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Amarillo, Tex	8	64	w.	Hatteras, N.C	30	56	nw.
Do	20	52	w.	Havre, Mont	28	52	e.
Do	23	56	w.	Huron, S. Dak	17	54	se.
Do	30	50	sw.	St. Louis, Mo	1	62	w.
Block Island, R.I.	8	72	ne.	Do	11	56	w.
Do	9	54	ne.	Sioux City, Iowa	17	53	sw.
Fort Canby, Wash.	21	52	se.				

SUNSHINE AND CLOUDINESS.

The quantity of sunshine, and therefore of heat, received by the atmosphere as a whole is very nearly constant from year to year, but the proportion received by the surface of the earth depends upon the absorption by the atmosphere, and varies largely with the distribution of cloudiness. The sunshine is now recorded automatically at 21 regular stations of the Weather Bureau by its photographic and at 47 by its thermal effects. The photographic record sheets show the apparent solar time, but the thermometric records show seventy-fifth meridian time; for convenience the results are all given in Table IX for each hour of local mean time. In order to complete the record of the duration of cloudiness these registers are supplemented by special personal observations of the state of the sky near the sun for an hour after sunrise and before sunset, and the cloudiness for these hours has been added as a correction to the instrumental records, whence there results a complete record of the duration of sunshine from sunrise to sunset.

The average cloudiness of the whole sky is determined by numerous personal observations at all stations during the daytime, and is given in the column "average cloudiness" in Table I; its complement, or percentage of clear sky, is given in the last column of Table IX for the stations at which instrumental self-registers are maintained.

The percentage of clear sky (sunshine) for all of the stations included in Table I, obtained as described in the preceding paragraph, is graphically shown on Chart VII. The regions of cloudy and overcast skies are shown by heavy shading; an absence of shading indicates, of course, the prevalence of clear, sunshiny weather.

The formation of fog and cloud is primarily due to differences of temperature in a relatively thin layer of air next to the earth's surface. The relative position of land and water surfaces often greatly increases the tendency to form areas of cloud and fog. This principle is perhaps better exemplified in the Lake region than elsewhere, although it is of quite general application. The percentage of sunshine on the lee shores of the Lakes is always much less than on the windward shores. Next to the permanent influences that tend to form fog and cloud may be classed the frequency of the passage of cyclonic areas.

The current month.—The month was one of bright sunshine in the Southwest and over a considerable portion of the Gulf States; especially is this true of western Florida, Georgia, and southern Alabama. The sunshine in the Lake region was about normal. There was, however, a very considerable area in the Missouri Valley, westward, including Nebraska, northern Colorado, Wyoming, southern Montana, northern Utah, Idaho, and a portion of Washington and Oregon, over which the sunshine was very much less than usual. The precise limits of this region can readily be seen by examining Chart VII. It will be noted, in connection with this chart, that at no time since the first of the year has there been so little sunshine over so great an extent in the interior of the country.

Average cloudiness and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	6.6	+1.1	Missouri Valley	6.2	+0.8
Middle Atlantic	6.2	+1.0	Northern Slope	6.5	+1.1
South Atlantic	3.6	−0.8	Middle Slope	5.4	+0.6
Florida Peninsula	2.4	−2.1	Southern Slope	4.0	−0.5
East Gulf	2.9	−1.4	Southern Plateau	2.6	+0.4
West Gulf	4.7	−0.2	Middle Plateau	6.3	+2.2
Ohio Valley and Tennessee	4.7	−0.4	Northern Plateau	5.2	−0.4
Lower Lake	6.2	+1.0	North Pacific Coast	5.3	−0.6
Upper Lake	5.2	−0.3	Middle Pacific Coast	5.4	+1.2
North Dakota	4.4	−0.9	South Pacific Coast	4.0	−0.2
Upper Mississippi Valley	5.6	+0.4			

ATMOSPHERIC ELECTRICITY.

Numerical statistics relative to auroras and thunderstorms are given in Table IX, which shows the number of stations from which meteorological reports were received, and the number of such stations reporting thunderstorms (T) and auroras (A) in each State and on each day of the month, respectively.

Thunderstorms.—The dates on which the number of reports of thunderstorms for the whole country were most numerous were: 19th, 425; 20th, 304; 21st, 281; 18th, 267; 16th, 237; 15th, 212.

Reports were most numerous from Missouri, 370; Ohio, 321; Illinois, 284; North Carolina, 215.

Auroras.—The evenings on which bright moonlight must have interfered with observations of faint auroras are assumed to be the four preceding and following the date of full moon, viz, from the 1st to the 9th.

The greatest number of reports were received for the following dates: 29th, 13; 9th, 11; 15th and 30th, 3.

Reports were most numerous from Wisconsin, 13; North Dakota, 8; Ohio, 7; Minnesota, 4.

In Canada.—Auroras were reported as follows: Father Point, 8, 9, 10; Quebec, 30, 31; White River, 4, 30; Minnedosa, 27, 30; Swift Current, 11; Prince Albert, 13, 29.

Thunderstorms were reported as follows: Father Point, 12; Quebec, 20; Montreal, 14, 19, 22; Rockliffe, 11; Toronto, 11, 19, 22, 23; Port Stanley, 3, 11, 19, 20; Saugeen, 11, 19; Parry Sound, 11, 18, 19, 22; Port Arthur, 9; Minnedosa, 25; Qu'Appelle, 24; Swift Current, 23, 30; Calgary, 18; Kamloops, 17, 21; Esquimalt, 26.

CLIMATE AND CROP SERVICE.

By JAMES BERRY, Chief of Climate and Crop Service Division.

The following extracts relating to the general weather conditions in the several States and Territories are taken from the monthly reports of the respective sections of the Climate and Crop Service. The name of the section director is given after each summary.

Rainfall is expressed in inches.

Alabama.—The mean temperature was 73.6°, or 2.6° above normal, the highest was 101°, at Eufaula on the 30th, and the lowest, 33°, at Valleyhead on the 7th. The average precipitation was 0.82, or 3.06 below normal; the greatest monthly amount, 3.05, occurred at Riverton, while none fell at Citronelle and Wilsonville.—*F. P. Chaffee.*

Arizona.—The mean temperature was 67.8°; the highest was 109°, at Parker on the 10th and 11th, and the lowest, 23°, at Williams on the 5th. The average precipitation was 0.39; the greatest monthly amount,

4.90, occurred at Flagstaff, while no rain fell at many stations.—*W. T. Blythe.*

Arkansas.—The mean temperature was 72.1°, or 3.4° above normal, the highest was 100°, at Lutherville on the 29th, and the lowest, 30°, at Pond on the 7th. The average precipitation was 6.44, or 1.37 above normal; the greatest monthly amount, 14.28, occurred at Dallas, and the least, 1.22, at Elon.—*E. B. Richards.*

California.—The mean temperature was 61.3°, or 4.5° below normal; the highest was 109°, at Volcano Springs on the 11th, and at Salton on the 22d and 26th, and the lowest, 14°, at Bodie on the 20th. The average precipitation was 1.56, or 0.61 above normal; the greatest monthly amount, 8.27, occurred at Morses House.—*W. H. Hammon.*

Colorado.—The mean temperature was 50.2°, or 3.0° below normal; the highest was 93°, at Lamar on the 23d, and the lowest, 8°, near Longs Peak on the 2d, and at Lake Moraine on the 6th. The average precipitation was 3.61, or 1.58 above normal; the greatest monthly amount, 9.14, occurred at Ruby, and the least, 0.46, at Breckenridge.—*F. H. Brandenburg.*

Florida.—The mean temperature was 76.4°, or slightly above normal; the highest was 102°, at Minneota Park on the 28th, and the lowest, 41°, at St. Francis on the 8th. The average precipitation was decidedly below normal, and was the driest May for several years; the greatest monthly amount, 6.16, occurred at Huntington, and the least, 0.04, at Pensacola.—*A. J. Mitchell.*

Georgia.—The mean temperature was 74.0°, or 3.1° above normal; the highest was 103°, at Albany on the 29th, and the lowest, 35°, at Diamond, Ramsey, and Unionpoint on the 7th. The average precipitation was 1.12, or 1.93 below normal; the greatest monthly amount, 3.66, occurred at Elberton, and the least, 0.16, at Ramsey.—*J. B. Marbury.*

Idaho.—The mean temperature was 53.3°; the highest was 96°, at Payette on the 11th, and the lowest, 20°, at Lake on the 1st. The average precipitation was 2.43; the greatest monthly amount, 5.26, occurred at Gimlet, and the least, 0.29, at Marysville.—*D. P. McCallum.*

Illinois.—The mean temperature was 62.2°, or about normal; the highest was 93°, at Equality on the 28th, and the lowest, 30°, at Scales Mound on the 6th and at Lanark on the 12th. The average precipitation was 5.78, or 1.55 above normal; the greatest monthly amount, 9.55, occurred at Carlyle, and the least, 2.23, at Chicago.—*C. E. Linney.*

Indiana.—The mean temperature was 63.1°, or 1.3° above normal; the highest was 92°, at Mount Vernon and Crawfordsville on the 25th, and the lowest, 30°, at Hector and Knox on the 14th. The average precipitation was 4.49, or 0.28 above normal; the greatest monthly amount, 10.57, occurred at Crawfordsville, and the least, 2.09, at Franklin.—*C. F. R. Wappenhans.*

Iowa.—The mean temperature was 59.6°, or about normal; the highest was 92°, at Odebolt on the 24th and at College Springs on the 25th, and the lowest, 26°, at Rock Rapids on the 6th. The average precipitation was 4.67, or slightly above normal; the greatest monthly amount, 7.82, occurred at Fort Madison, and the least, 2.22, at Estherville.—*G. M. Chappel.*

Kansas.—The mean temperature was 62.9°, or 0.6° below normal; the highest was 95°, at Delphos on the 11th, and at Meade on the 23d, and the lowest, 29°, at Coolidge on the 6th. The average precipitation was 6.28, or 2.34 above normal; the greatest monthly amount, 11.88, occurred at Olathe, and the least, 2.62, at Delphos.—*T. B. Jennings.*

Kentucky.—The mean temperature was 67.6°, or 2.2° above normal; the highest was 93°, at Paducah on the 24th, and the lowest, 31°, at Owenton on the 6th. The average precipitation was 4.52, or 0.50 above normal; the greatest monthly amount, 6.46, occurred at Earlington, and the least, 2.50, at Edmonton.—*G. E. Hunt.*

Louisiana.—The mean temperature was 74.7°, or about 1.0° above normal; the highest was 98°, at Minden on the 24th, at Amite and Liberty Hill on the 31st; the lowest was 36°, at Robeline on the 7th and 8th. The average precipitation was 1.15, or nearly 2.00 below normal; the greatest monthly amount, 4.38, occurred at Mansfield, while none fell at Plaquemine, and only sprinkles at several stations.—*R. E. Kerkam.*

Maryland and Delaware.—The mean temperature was 62.9°, or 0.3° below normal; the highest was 96°, at Taneytown, Md., on the 1st, and at Milford, Del., on the 20th; the lowest was 25°, at Deerpark, Md., and Sunnyside, Md., on the 9th. The average precipitation was 4.47, or 0.26 above normal; the greatest monthly amount, 12.29, occurred at Bachmans Valley, Md., and the least, 2.30, at Hagerstown, Md.—*F. J. Walz.*

Michigan.—The mean temperature was 55.1°, or 1.2° above normal; the highest was 88°, at Clinton on the 23d, and the lowest, 20°, at Humboldt on the 4th. The average precipition was 2.53, or 1.00 below normal; the greatest monthly amount, 6.23, occurred at Baraga, and the least, 1.20, at Mount Clemens.—*C. F. Schneider.*

Minnesota.—The mean temperature was 55.6°, or about normal; the highest was 92°, at Ada on the 24th, and the lowest, 20°, at Koochiching on the 3d. The average precipitation was 3.26, or about normal; the greatest monthly amount, 6.02, occurred at Mapleplain, and the least; 0.89, at Roseau.—*T. S. Outram.*

Mississippi.—The mean temperature was 74.2°, or 1.9° above normal; the highest was 101°, at Aberdeen on the 29th and 31st, and the lowest, 37°, at French Camp on the 8th. The average precipitation was 2.21, or 1.94 below normal; the greatest monthly amount, 5.29, occurred at Batesville, while none fell at Mosspoint.—*R. J. Hyatt.*

Missouri.—The mean temperature was 65.2°, or 1.0° above normal; the highest was 97°, at Eldon on the 25th, and the lowest, 31°, at Potosi on the 6th. The average precipitation was 7.92, or 2.69 above normal; the greatest monthly amount, 19.22, occurred at Sublett, and the least, 4.62, at Arthur.—*A. E. Hackett.*

Montana.—The mean temperature was 50.4°, or about 2.0° below normal; the highest was 90°, at Fort Keogh on the 23d, and the lowest, 10°, at Boulder on the 3d. The average precipitation was 3.56, somewhat above normal; the greatest monthly amount, 12.63, occurred at Red Lodge, and the least, 0.14, at St. Pauls.—*J. Warren Smith.*

Nebraska.—The mean temperature was 57.2°, or about 2.0° below normal; the highest was 98°, at Franklin on the 22d, and at Aurora on the 31st, and the lowest, 27°, at Kimball on the 1st, and at Lexington on the 5th. The average precipitation was 4.86, or about 1.00 above normal; the greatest monthly amount, 8.90, occurred at Thedford, and the least, 1.38, at Norden.—*G. A. Loveland.*

Nevada.—The mean temperature was 51.8°, or 3.5° below normal; the highest was 93°, at Panaca on the 11th, and the lowest, 20°, at Elko on the 20th. The average precipitation was 1.84, or about double the usual amount; the greatest monthly amount, 4.18, occurred at Austin, and the least, trace, at Hot Springs.—*R. F. Young.*

New England.—The mean temperature was 54.6°, or 0.9° below normal; the highest was 86°, North Norwalk, Conn., on the 20th, and at North Conway, N. H., on the 29th; the lowest was 14°, at Berlin Mills, N. H., on the 1st. The average precipitation was 4.38, or 0.49 above normal; the greatest monthly amount, 8.96, occurred at Narragansett Pier, R. I., and the least, 1.02, at Orono, Me.—*J. W. Smith.*

New Jersey.—The mean temperature was 58.5°, or 2.3° below normal; the highest was 93°, at Beverly, Bridgeton, and Flemington on the 20th, and the lowest, 29°, at Belvidere and Franklin Furnace on the 9th. The average precipitation was 7.00, the largest on record, or 2.82 above normal; the greatest monthly amount, 9.26, occurred at Oceanic, and the least, 3.92, at Cape May City.—*E. W. McGann.*

New Mexico.—The mean temperature was 59.3°, or 2.1° below normal; the highest was 100°, at Shattucks on the 25th, and the lowest, 19°, at Buckmans on the 21st. The average precipitation was 0.53, or 0.67 below normal; the greatest monthly amount, 2.07, occurred at Clayton, while none fell at Fort Bayard and Whiteoaks.—*R. M. Hardinge.*

New York.—The mean temperature was 56.5°, or 0.2° above normal; the highest was 90°, at Brooklyn and Brentwood on the 20th, and the lowest, 26°, at Saranac Lake on the 8th. The average precipitation was 4.09, or 0.50 above normal; the greatest monthly amount, 11.50, occurred at Brentwood, and the least, 1.66, at Buffalo.—*R. G. Allen.*

North Carolina.—The mean temperature was 68.5°, or about 1.5° above normal; the highest was 104°, at Goldsboro on the 30th, and the lowest, 27°, at Highlands on the 7th. The average precipitation was 3.69, or about 0.50 below normal; the greatest monthly amount, 10.03, occurred at Edenton, and the least, 0.76, at Southport.—*C. F. von Herrmann.*

North Dakota.—The mean temperature was 52.5°, or 1.1° below normal; the highest was 92°, at Wahpeton on the 23d, and the lowest, 14°, at Gallatin on the 11th. The average precipitation was 2.05, or 0.59 below normal; the greatest monthly amount, 4.56, occurred at Kelso, and the least, 0.01, at McKinney.—*B. H. Bronson.*

Ohio.—The mean temperature was 61.0°, or about 1.0° above normal; the highest was 92°, at Logan, Portsmouth, and Waverly on the 21st, and the lowest, 29°, at Hillhouse on the 9th. The average precipitation was 4.10, or about normal; the greatest monthly amount, 6.39, occurred at Granville, and the least, 2.07, at Cleveland.—*H. W. Richardson.*

Oklahoma.—The mean temperature was 68.9°; the highest was 101°, at Kemp on the 29th, and the lowest, 31°, at Fort Reno on the 2d. The average precipitation was 8.16; the greatest monthly amount, 13.38, occurred at Winnview, and the least, 2.73, at Beaver.—*J. I. Widmeyer.*

Oregon.—The mean temperature was 53.9°, or 0.6° below normal; the highest was 93°, at Prineville on the 11th, and the lowest, 19°, at Happy Valley and Silverlake on the 7th. The average precipitation was 2.18, or 0.39 below normal; the greatest monthly amount, 6.23, occurred at Langlois, and the least, 0.03, at The Dalles.—*B. S. Pague.*

Pennsylvania.—The mean temperature was 60.0°, or 0.9° above normal; the highest was 94°, at Coatesville on the 20th, and the lowest, 22°, at Dushore on the 9th. The average precipitation was 5.11, or 0.32 above normal; the greatest monthly amount, 10.15, occurred at Point Pleasant, and the least, 2.79, at Erie.—*T. F. Townsend.*

South Carolina.—The mean temperature was 73.8°, or 3.0° above normal; the highest was 106°, at Gillisonville on the 30th, and the lowest, 39°, at Central and Greenville on the 8th. The average precipitation was 1.35, or 2.67 below normal; the greatest monthly amount, 6.31, occurred at Trial, and the least, 0.50, at Longshore—*J. W. Bauer.*

South Dakota.—The mean temperature was 55.0°, or about 1.0° below normal; the highest was 100°, at Cherry Creek on the 23d, and the lowest, 17°, at Cherry Creek on the 6th. The average precipitation was 4.52, or 1.28 above normal; the greatest monthly amount, 9.42, occurred at Sioux Falls, and the least, 2.01, at Ipswich.—*S. W. Glenn.*

Texas.—The mean temperature for the State during the month, determined by comparison of 38 stations distributed throughout the State,

was 0.8° above the normal. There was a slight deficiency over the panhandle, west Texas, and the central portion of the coast district, while there was a general excess over the other portions of the State, being slight over the east and west portions of the coast district and ranging from 1° to about 3° over the other portions, with the greatest excess over the central portion of north Texas. The highest was 107°, at Fort McIntosh on the 19th, and the lowest, 32°, at Amarillo on the 6th. The average precipitation for the State during the month, determined by comparison of 40 stations distributed throughout the State, was 0.71 below the normal. There was a general excess over the panhandle and the western portions of central and north Texas, with the greatest, 4.23, in the vicinity of Brownwood, while there was a general deficiency elsewhere, ranging from about 1.00 to 4.53, with the greatest in the vicinity of Houston. The greatest monthly amount, 7.59, occurred at Coleman, while none fell at Fort Clark.—*I. M. Cline.*

Utah.—The mean temperature was 53.2°; the highest was 94°, at St. George on the 12th, and the lowest, 20°, at Loa on the 3d and at Soldier Summit on the 20th. The average precipitation was 3.02, or considerably above normal; the greatest monthly amount, 7.04, occurred at Heber, and the least, 0.61, at Fort Duchesne.—*J. H. Smith.*

Virginia.—The mean temperature was 65.6°, or slightly above normal; the highest was 98°, at Ballsville and Doswell on the 20th, and the lowest, 30°, at Dale Enterprise on the 9th. The average precipitation was 5.35, or 0.91 above normal; the greatest monthly amount, 9.08, occurred at Lynchburg, and the least, 3.53, at Buckingham.—*E. A. Evans.*

Washington.—The mean temperature was 55.2, or nearly normal; the highest was 92°, at Kennewick on the 25th, and at Lind on the 26th, and the lowest, 24°, at Centerville on the 31st. The average precipitation was 1.81, or about 0.50 below normal; the greatest monthly amount, 5.06, occurred at Clearwater, and the least, 0.12, at Ellensburg.—*G. N. Salisbury.*

West Virginia.—The mean temperature was 63.0°, or about 1.5° above normal; the highest was 94°, at Eastbank on the 21st, and the lowest, 28°, at Beverly on the 9th. The average precipitation was 4.51, or slightly above normal; the greatest monthly amount, 6.15, occurred at Beverly, and the least, 2.76, at Parkersburg.—*C. M. Strong.*

Wisconsin.—The mean temperature was 55.7°, or nearly normal; the highest was 89°, at Chat on the 7th, at Knapp on the 23d, and at Prairie du Chien on the 24th. The average precipitation was 2.84, or 0.85 below normal; the greatest monthly amount, 6.60, occurred at Osceola, and the least, 1.10, at La Crosse.—*W. M. Wilson.*

Wyoming.—The mean temperature was 48.0°, or 2.3° below normal; the highest was 89°, at Fort Laramie on the 31st, and the lowest, 15°, at Sheridan on the 6th. The average precipitation was 3.78, or 1.72 above normal; the greatest monthly amount, 6.02, occurred at Lander, and the least, 1.46, at Bigpiney.—*W. S. Palmer.*

SPECIAL CONTRIBUTIONS.

MOISTURE TABLES.

By Prof. C. F. MARVIN.

The quantity of moisture mixed with the air under different conditions as to temperature and degree of saturation often plays an important part in the operation of blast furnaces, drying kilns, cotton mills, steel mills, etc. The metallurgist, especially, is awakening to the importance of taking full account of the moisture in the air that incidentally, or designedly, is often a part of extensive chemical operations involved in the production of steel and iron.

From time to time letters requesting information on these questions have been received by the Chief of the Weather Bureau, and it has seemed advisable to publish a general answer to such inquiries in the shape of the following notes and table.

The weight of a unit volume of vapor is given in the revised editions of meteorological tables only for conditions of complete saturation, whereas, in ordinary practice we deal nearly always with cases of partial saturation, and it is believed the table below will be useful to many and obviate the necessity of special computations.

Faulty conceptions.—A false notion that the air has a certain capacity for moisture is widely prevalent, and is perpetuated by all such expressions as "The air is partly saturated with moisture," "Weight of aqueous vapor in a cubic foot of *saturated* air," etc.

It should always be clearly observed that the presence of the moisture in any given space is independent of the presence or absence of air in the same space except that the air retards the diffusion of the vapor particles. It is more correct to say, in the above cases, that the space is partly saturated with moisture, or the moisture is partly saturated or is superheated. By all means use the phrase "Weight of a cubic foot of saturated aqueous vapor," not "Weight of aqueous vapor in a cubic foot of saturated air."

The amount of saturated aqueous vapor that can exist in any given space depends entirely upon the temperature. It appears that the vapor may be supersaturated under certain peculiar conditions, but this is a special and an unstable state which need not be considered in the present connection. When the vapor is saturated, it will exert a certain pressure which varies with the temperature and which so-called "maximum pressure" has been measured with greater or less precision over a long range of temperature from about 60° below zero F., to far above the boiling point of water.

Saturated aqueous vapor is but little more than half as heavy as the same volume of air under like conditions of temperature and pressure, and, in all ordinary computations it is assumed that the expansion and contraction of partially saturated aqueous vapor is in accordance with the same laws as apply to air and ordinary gases, which do not easily condense to the liquid state.

The adopted density of saturated aqueous vapor is not determined directly from experiment, but is deduced theoretically from the observed fact that two volumes of hydrogen and one of oxygen combine to produce two volumes of water vapor.

The weights of unit volumes of hydrogen, oxygen, and dry air are accurately known, from which the specific gravity of aqueous vapor is found to be 0.6221.

The weight of a cubic meter of saturated aqueous vapor is given by the equation:

$$W = 0.6221 \frac{A}{1 + kt} \frac{F}{760},$$

in which t is the temperature, centigrade, and F the corresponding pressure, in millimeters, at saturation. A is the weight of a cubic meter of air, under standard conditions = 1.29278 kilogram, k is the coefficient of expansion of air = 0.003667.

If English units of temperature, pressure, and weight are used, we find the weight of a cubic foot of saturated aqueous vapor in grains is:

$$W = 11.7459 \frac{F'}{1 + 0.002037\ (t-32)}.$$

This formula gives the weights found in the column headed "100" in the accompanying table. Above 32° the values of F′ employed were those deduced from Regnault's observations, by Broch, for the International Bureau of Weights and Measures. Broch's reduction is unsatisfactory for temperatures below 32°, and this portion of the table is based upon saturation pressures experimentally observed by the writer and described in Appendix 10, Annual Report of the Chief Signal Officer, 1891.

When the water vapor present in any given space is not saturated, this fact is generally expressed by the degree of humidity assigned to it. For example, we say the relative humidity, that is the percentage of saturation, is 60. This means that only 60 per cent of the vapor that might at the prevailing temperature exist in the space under consideration is present; hence, 40 per cent more vapor must be added in